



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,409	10/15/2001	Frank Holm Iversen	6495-07	3178

7590 01/30/2004

McCormick, Paulding & Huber LLP  
CityPlace II  
185 Asylum Street  
Hartford, CT 06103-3402

EXAMINER
----------

KIM, CHONG HWA

ART UNIT	PAPER NUMBER
----------	--------------

3682

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/977,409

Applicant(s)

IVERSEN ET AL.

Examiner

Chong H. Kim

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Nov 19, 2003 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the bearing element and the rod eye each including alignment marks as recited in claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 3682

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nikolaus, U.S. Patent 4,856,366.

Nikolaus shows, in Figs. 1-17, a hermetically enclosed refrigerant compressor comprising;

a compressor block having a bore extending therethrough (inherent);

a crank shaft 14 positioned for rotation in the bore, the crank shaft defining an eccentric crank pin 12 at one end thereof;

the crank shaft and crank pin cooperating to define an oil channel 38 arrangement;

a connecting rod 18 attached at one end to a bearing element 10 such that there is no relative motion between the bearing element and the connecting rod, the connecting rod having a passage 36 extending therethrough and in communication with a channel 52, 41 formed by the cooperation of the connecting rod and the bearing element;

the crank pin extending into the bearing element and being positioned for rotation relative thereto; and a control arrangement providing communication between the channel and the oil channel arrangement, at least once per revolution of the crank pin (see Fig. 17);

wherein the control arrangement comprises at least one radial bore 52 in the bearing element, which bore overlaps an oil source upon a rotation of the crank pin;

wherein the oil source is formed by an opening 51 in the crank pin and forming part of the oil channel arrangement;

wherein the passage defines an opening into the channel and the radial bore is offset in a circumferential direction relative to the opening;

wherein the connecting rod includes a first connecting rod eye 11 opposite the end attached to the bearing element, the connecting rod eye surrounding a piston bolt 13 having a lubrication channel 43 that overlaps the passage at least once during a revolution of the crank pin, the control arrangement establishing the communication between the passage and the channel;

wherein the control arrangement establishes the communication during a suction phase of the compression (see Fig. 17);

wherein the control arrangement further establishes the communication when a compression phase of the compressor begins(see Fig. 17);

wherein the bearing element defines two radial bores 52 arranged at a predetermined distance relative to each other and to the opening of the passage; and

wherein the connecting rod defines a rod eye 16 positioned over the bearing element, the bearing element and the rod eye each include alignment marks 65, 66, 68, 69;

but fails to show the channel extending completely around a circumference of the bearing element.

It would have been obvious to modify the limited channel of Nikolaus by having the channel extend completely around the circumference, since applicant has not disclosed that having the channel extend completely around the circumference solves any stated problem or is for any particular purpose and since applicant disclosed that “(the) oil channel does not have to extend over the whole circumference” on page 11, lines 28-29, it appears that the oil distribution would perform equally well with the channel extended at any length as long as the channel connects two ports.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nikolaus in view of Bushnell, U.S. Patent 6,024,548.

Nikolaus shows, as discussed above in the rejection of claim 1-3, the compressor comprising the crankshaft having the crank pin with the oil channel arrangement but fails to show an oil pocket in an area near the opening on the crank pin.

Bushnell shows, in Fig. 1-3, a compressor comprising a crank pin 40-2 disposed in a bearing element 22 wherein an oil channel arrangement 40-8 is formed in the crank pin, wherein the crank pin defines an oil pocket 40-11 in an area proximate the opening 40-8 forming part of the oil channel arrangement.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the opening of the oil channel of Nikolaus with the oil channel opening having the oil pocket as taught by Bushnell in order to provide a more effective lubricating method whereby the entire contacting surface of the crank pin is distributed with lubricant so that the compressor may last longer.

### ***Response to Arguments***

6. In response to the applicant's argument that there is no new matter involved in the drawing correction filed Jun 24, 2003, in paper No.3, it is the Examiner's concern not with the establishment of the disclosure concerning the alignment marks being included in bearing element and the rod eye, but with the way the alignment mark is formed, especially the newly added mark 37 that has an indented box-like shape and such location that aligns with the connecting rod portion 22. Such inclusion of the mark 37 in Fig. 3 raises a new matter issue.

7. In response to the applicant's argument that it would not be obvious to form the channel completely around the bearing element of Nikolaus, it is the Examiner's view that it would be obvious. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation can be found in the knowledge (or common sense) generally available to one of ordinary skill in the art. The applicant's contention that one of ordinary skill in the art would not form the channel of Nikolaus completely around the bearing element because of the possible leak between the cap portion 30 and the main portion 29 "thereby rendering the lubrication system ineffective." However, it is not the question of the level of effectiveness of a short channel versus a longer channel. If the effectiveness is the main sticking point, then why does the applicant not claim the shorter channel that is more effective, as the applicant admitted on page 11, lines 28-29;

The oil channel does not have to extend over the whole circumference. It is sufficient, when the oil channel 27 creates a communication between the opening of the longitudinal channel 23 and the radial bore 28. This simplifies the manufacturing of the second connecting rod eye 20.

In this case, the obviousness is not justified by the effectiveness of the system but is simply related to whether a person of ordinary skill in the art would be capable of extending the channel completely around the bearing element as long as the intended result is accomplished, that is properly connecting the channels to transport lubricants from one port to another. Thus, it would

Art Unit: 3682

be obvious to a person of ordinary skill in the art to modify the limited channel of Nikolaus by having the channel extend completely around the circumference, since applicant has not disclosed that having the channel extend completely around the circumference solves any stated problem or is for any particular purpose and it appears that the oil distribution would perform equally well with the channel extended at any length as long as the channel connects two ports.

### *Conclusion*

8. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



Application/Control Number: 09/977,409  
Art Unit: 3682

Page 8

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (703) 305-0922. The examiner can normally be reached on Tuesday - Friday; 8:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on (703) 308-3668. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

chk  
January 28, 2004

  
CHONG H. KIM  
PRIMARY EXAMINER